Construction Industry Coalition on Water Quality

February 13, 2009

Michael Adackapara
Santa Ana Regional Water Quality Control Board
3737 Main Street, Suite 500
Riverside, CA 92501-3348

RE: Tentative Order No. R8-2008-0030 (NPDES Permit No. CAS618030) Waste Discharge Requirements for the County of Orange, Orange County Resources and Development Management Department, and the Incorporated Cities of Orange County Within the Santa Ana Region Areawide Urban Storm Water Runoff, Orange County

Dear Mr. Adackapara:

On behalf of the more than 3,000 member companies of the Construction Industry Coalition on Water Quality (CICWQ), we would like to thank the Santa Ana Regional Water Quality Control Board (Regional Board) for the opportunity to offer this public comment on the Draft Orange County Municipal Separate Storm Sewer System Permit, Tentative Order No. R8-2008-0030 (Draft Permit). We also appreciate the Regional Board's participation in the series of permit stakeholder meetings that we have had to date. This letter and attachments provide constructive suggestions that we have for the Draft Permit, and defines where we feel we have reached conceptual agreement on planning and land development provisions (most notably Low Impact Development and Hydromodification Control requirements) that have been discussed and debated thoroughly within a stakeholder group framework since December 2008.

I. Introduction

CICWQ is comprised of the four major construction and building industry trade associations in Southern California: the Associated General Contractors of California (AGC), the Building Industry Association of Southern California (BIA/SC), the Engineering Contractors Association (ECA) and the Southern California Contractors Association (SCCA). The membership of CICWQ is comprised of construction contractors, labor unions, landowners, developers, and homebuilders working throughout the region and state.

These organizations work collectively to provide the necessary infrastructure and support for the region's business and residential needs. Members of all of the above-referenced organizations are affected by the Draft Permit, as are thousands of construction employees and builders working to meet the demand for modern

infrastructure and housing in Orange County. Our organizations support efforts to improve water quality in a cost effective manner. Our comments and suggestions on the Draft Permit as well as our active involvement in the stakeholder group process reflect our commitment to protect water quality while at the same time preserve our member's economic viability in this difficult economic environment. Our membership has invested significant resources into developing sound engineering approaches for Low Impact Development (LID) stormwater management techniques and for hydromodification control, facilitating the appropriate application of these valuable approaches to water quality management. Our comments reflect this commitment to sound engineering practices and consideration of site-specific feasibility considerations.

II. Preliminary Statement

The stakeholder discussions have demonstrated that the new terms and provisions of the Draft Permit are not self-defining. They could potentially invite misunderstanding because different people might impute different meanings and definitions for the same terms. Regardless of this potential, we believe that considerable progress has been made, and that significant common ground is being found. Most importantly, we share the common goal of moving the permit program in the direction of LID Best Management Practices ("BMPs"), and we appreciate the need to avoid hydromodification impacts to sensitive stream channels. We agree that conventional stormwater BMPs should not be used as the primary BMP approach for a site unless it is plainly infeasible or undesirable due to ecological or other societal considerations (e.g. ultra high density project) to use LID BMPs. We also continue to favor regional BMPs and off-site solutions when they can be demonstrated to achieve a high environmental benefit, recognizing at the same time that these options cannot be mandated when they are not generally available, and may not be for some time.

We also believe that there are certain realities for which the Draft Permit must account, including the following principal points:

- A 2-year, 24-hour design storm volume for LID BMPs is not realistic, and should be replaced with a capture volume corresponding to the current criterion in the existing permit and the Drainage Areawide Management Plan (DAMP). Our understanding is that all those participating in the stakeholder process, including the agency and the Non-Governmental Organizations ("NGOs"), are in agreement on this point.

- A 95 percent non-effective impervious area ("EIA") requirement does not make sense given that LID BMPs should apply to 100 percent of the capture volume. In addition, the term "EIA" lacks a common, understandable and implementable definition, and is too vague and ambiguous to be used as a logical standard. There seems to be willingness on the part of the agency and the NGOs to consider a capture volume approach, without the complication and confusion created by appending EIA to it. The NGOs have acknowledged that EIA lacks meaning

without a design storm volume specified and clear criteria of what would be considered non-effective impervious area. This is an important acknowledgement, which we appreciate, as it tends to show that EIA as a stand-alone concept does not have value or relevance.

- Mandating the complete on-site retention of capture volume (i.e. runoff that never leaves as surface flows) is not a reasonable approach. Total, 100 percent retention remains a practical infeasibility in most circumstances, and is not a goal that can be achieved for most projects within any reasonable cost, despite best efforts. Thus, the retention BMPs of infiltration, harvesting, and evapotranspiration ("ET") may be fairly described as a favored first tier of LID BMPs, but they should not be universally mandated to the exclusion of all other options. While we understand that the NGOs would prefer to see the retention BMPs applied everywhere, and every project retain the entire capture volume on site, there seems to be some level of appreciation that this ideal is not possible, or even necessarily desirable, as a universal mandate.

- Biofiltration, bioretention, filter strips, and other BMPs based on using vegetation to promote stormwater treatment should be added to the suite of LID BMPs available to project proponents. These BMPs may be specified as a second tier, but project proponents should have considerable discretion to use these BMPs, and should not be required to apply for a feasibility exception to do so. The Regional Board and NGOs seem amenable to including these BMPs in the universe of LID, especially if projects must use underdrains in these features due to the feasibility and desirability of infiltration.

- The use of conventional BMPs as the principal approach for stormwater management should be a last resort, available only when objective infeasibility criteria are satisfied, and when off-site opportunities are not readily available. When LID BMPs are infeasible, and off-site opportunities are not available, the use of conventional BMPs that have been demonstrated to be effective on the pollutants of concern should be a compliance option.

- The approach to hydromodification control needs to be carefully considered on a watershed specific basis. Each stream or stormwater conveyance system is unique along with unique characteristics of the watershed. Hydromodification impacts can come from not just increasing runoff volumes, but also reduction in sediment supply from upland areas. Finally, many of Orange County's streams and stormwater conveyances are geomorphically stable and do not require hydromodification controls. Therefore, we recommend that hydromodification controls be targeted to those watersheds that drain to sensitive systems and that these controls over time be tailored to specific watersheds. There should be a provision that if a hydromodification plan is submitted for a project that provides a technically accurate hydromodification assessment and control plan, that project

can implement those provisions rather than any generalized non-watershed specific requirements.

Finally, we are enthusiastic about advancing a variety of leading-edge issues through a watershed master planning process. These plans would facilitate progress on unresolved issues related to science, technology and feasibility. On a much more granular basis than is available today, watershed-specific master plans can help determine appropriate project BMP requirements, retrofit BMPs, source controls, and other watershed efforts to address specific, receiving water beneficial uses.

Such plans hold the promise of a better path towards achieving water quality standards, replacing the relatively fractured, site-by-site, *ad hoc* approach of the current paradigm, with an overall scheme for water quality improvement. Watershed-specific master plans will provide project proponents with a level of certainty that does not presently exist and make cost-effective and environmentally-superior, regional and sub-regional water quality solutions available. Examples of issues to be explored include opportunities for harvesting, mapping of sensitive channels, determining areas where infiltration should be promoted, and compiling information on groundwater quality and contamination. There also could be added focus on an integrated approach to addressing impairment, and protecting high-quality, specially-protected areas.

III. Comments

What follows are our comments, organized into three sections and supported with attachments where noted: (1) comments on Finding No. 62; (2) comments on Section XII: New Development (Including Significant Redevelopment); and (3) comments on areas of conceptual agreement, where we list areas within the Draft Permit structure upon which the stakeholder group (and *ad-hoc* technical subgroup) reached general consensus.

A. Comments on Finding No. 62

CICWQ does not support this finding, the implications of it, and the utility of using EIA in defining "requirements for new development and redevelopment projects." The finding supports EIA as a performance standard in sizing and implementing LID BMPs, yet does not reflect the current state of knowledge concerning the much greater efficacy of other performance standards for sizing LID BMPs.

BIA/SC communicated with the U.S. Environmental Protection Agency (EPA) regarding their intent in using EIA as a performance standard in designing and implementing LID BMPs. While EPA supports the use of "clear, measureable, and enforceable requirements" for LID performance, such as limitations on EIA, EPA's letter to BIA/SC dated July 31, 2008 (Attachment 1) clearly states that "use of the 5% EIA requirement is not the only acceptable, quantitative approach for incorporating LID into renewed MS4 permits in southern California." The EPA further states that "we are open to other quantitative means for measuring how LID tools reduce storm water discharges."

Therefore, Finding No. 62 does not accurately reflect the position of EPA regarding its advocacy of clear, quantitative measures for LID BMP performance in MS4 permits such as volume capture or other more common engineering approaches to sizing storm water handling facilities.

Additionally, CICWQ is concerned by the reference to Dr. Richard Horner's case study analysis which the Regional Board is using to support the inclusion of the 5% EIA limitation as a criterion for LID BMP implementation. The Finding accurately points out that this was a "limited study." The Finding should also point out, however, this is not a peer-reviewed analysis and it relies on many coarse-level assumptions about key LID BMP sizing parameters, such as generous consideration of the availability of landscaping areas for LID BMP features within several types of development projects, optimistic infiltration scenarios, and non-representative soil condition assumptions (soil data taken from the San Fernando Valley) that are applied broadly across Ventura County. We are enclosing a critique of the hydrological aspects of the Horner Case Study prepared by Geosyntec, Inc., dated May 28, 2008 (Attachment 2).

Moreover, CICWQ has pointed out during the stakeholder meetings that a limitation on EIA as a performance standard for sizing LID BMPs has created widespread confusion and misunderstanding in the development and building industry with respect to the definition of EIA, what this standard would require, and the reason for it. Proposing EIA as a performance standard has also created confusion among stormwater professionals from the principal permittee and co-permittees and consultants who support them within Orange County and within Regional Board staff as well. It is quite clear from the recent stakeholder meeting discussion that EIA does not have an agreed upon, logical definition. It may be a valid scientific concept under uncontrolled conditions (where there are no BMPs), and one that has meaning on a watershed scale where its definition first appeared, but it does not have a useful or proper role in project-level engineering design or project feature performance assessment.

We suggest striking Finding No. 62 or, at a minimum, revising it to present a reasonable, accurate and complete discussion of the debate regarding the LID BMP performance standard protocol.

B. Comments on Section XI: New Development (Including Significant Redevelopment)

1. <u>LID BMPs Should Be Preferred</u>

The CICWQ membership is committed to using appropriate LID design features and LID BMPs in new and redevelopment projects. While LID BMPs have been demonstrated to be effective stormwater management tools, they should not be limited simply to those that reduce stormwater runoff via infiltration or harvesting alone. In fact, LID includes a range of measures which can be employed on most projects and others, such as infiltration and harvesting/reuse, which have less universal application.

Projects should prioritize the selection of LID BMPs that remove stormwater pollutants, reduce stormwater runoff, and promote groundwater infiltration (where appropriate and technically and economically feasible), ET, and harvesting and reuse in an integrated approach to protecting water quality and managing water resources. It is our understanding that this approach is fairly close to the Board's originally intended language. We recommend that hard feasibility criteria should be specified in the model WQMP/DAMP upon its renewal – such that developers should not be able to bypass implementation of appropriate LID BMPs.

2. It is Neither Feasible Nor Appropriate to Mandate Universal Infiltration, Universal Infiltration Plus Harvesting, or Universal Infiltration Plus Harvesting Plus ET

We agree that LID BMPs that retain stormwater on site should be used when feasible and promoted in the Draft Permit. We do not think, however, that such BMPs should be mandated as a condition of permit compliance to the complete exclusion of other options. Such an approach would impose a universal hydrology standard mandating the on-site retention of a certain volume of water, regardless of likely water quality implications. If such an approach were achievable on a widespread basis using techniques and engineering approaches that are practicable, even to the maximum extent, we would agree to the approach. We have deep concerns, however, that such is not the case. We also have concerns that this could lead to other environmental problems. The use of retention BMPs should be promoted as preferred, but should not be mandated absent including BMPs that employ vegetation.

Retention BMPs, mandated to the exclusion of other options, have limited present utility as explained below. These points are made to illustrate the importance of maintaining a concept of LID BMPs that is broader than just retention – not to discourage the use of retention BMPs where appropriate.

- Infiltration – Infiltration BMPs can be land-intensive unless underground injection control wells can be used and many developments would not move forward as site constraints can limit the availability of land to dedicate for infiltration. Many areas subject to the Draft Permit are underlain by perched groundwater that is shallow and degraded. Infiltrating in these areas can mobilize and exacerbate preexisting contamination, create rising groundwater that then interferes with land development, or other problems. Infiltration can cause changes to habitat type, and to the hydrology of ephemeral streams, should the duration of flows be extended. It also can result in geotechnical instability and increased seismic risk, when rising groundwater increases the potential for liquefaction. Many soils in the area are not amenable to infiltration, given content such as silts and clay. Forebay areas where groundwater replenishment already is occurring by water authorities are in distinct locations, which may not correspond to where new projects are planned. New projects do not have the means to

transport retained stormwater to these forebay areas where infiltration may be desirable. Water authorities already have located and developed the most favorable zones in the forebay areas for ongoing groundwater replenishment. These authorities may resist increased infiltration over pressure zones on the basis of contamination risk, and infiltration in the forebays, as interfering with their jurisdiction.

- Harvesting – Harvesting is limited by reuse option, social acceptability, competing policy goals, and economic considerations, including the need to demonstrate that the water quality benefits of this approach warrant the significant investment entailed. A significant obstacle to harvesting is the limited availability of reuse options, whether on a local or regional basis. There are very few projects where a project proponent has a water demand that can be satisfied with captured stormwater. Typically, there would have to be open space, parks or golf courses immediately nearby or associated with the project to make this option even possible. The demand must be relatively immediate after collection so that the cisterns can be evacuated and made available for the next storm. This is particularly important in Southern California, where storms characteristically sweep through the area in a series. It is not possible to build cisterns so large that they capture the volume from the entire storm series, and there is no need to irrigate in between such storms.

- Other reuse options are extremely limited. Health codes limit the ability to reuse the water for toilet flushing, and building codes impede the construction of projects with the plumbing to accommodate this approach.

- The social acceptability of harvesting has not been demonstrated. Some places like Bermuda have been harvesting water in cisterns for decades. But there is no such precedent or history in Southern California. Who is going to maintain cisterns, monitor them during weekends, holidays and vacations? These questions are particularly acute should cisterns be required of homeowners.

- Harvesting stormwater is a policy goal that is in direct conflict with the California Legislature's goals for reclaiming and reusing wastewater. Recycled water is used largely for irrigation purposes, and in rare instances for indoor toilet flushing. The region covered by the Draft Permit enjoys the environmental and water conservation benefits of water reclamation facilities, but the demand is insufficient and recycled water goes unused. Harvesting will compete with recycled water, and offset its use to some extent. When and where is this socially desirable?

- No one has yet to address the cost of harvesting water. Certainly, at some cost, harvesting is not practicable. What are the appropriate benchmarks against which to measure this aspect? Should harvesting stormwater be used only if it is

comparable in cost to reclaimed water? What if it is five times more expensive per acre foot to produce harvested stormwater? Should it be promoted under that circumstance? Since there has been no economic study, it is difficult to gage this aspect of practicability. But this certainly counsels in the direction of folding harvesting into a broader array of BMP options.

- Finally, where is the water quality demonstration that harvesting produced water quality benefits that are commensurate with the investment? Harvesting only postpones the introduction of the stormwater into the environment. How does that postponement compare with vegetation-based BMPs that reduce the pollutant load but do not affect the timing of the discharge to any material extent?

- Evapotranspiration – Opportunities to enhance ET should be considered, but maybe limited. In some cases, soil amendments such as compost may be able to increase infiltration or shallow soil saturation and drying potential. The potential for ET, however, may be limited by excess irrigation that occupies the ET component of the hydrologic cycle. There may be exotic ET BMPs that are in development. But, practicability limits the options that are available today.

For the Regional Board's consideration, we have attached a white paper on infiltration prepared by Geosyntec Consultants (Attachment 3). The paper provides background on infiltration considerations and identifies some of the key factors necessary in properly implementing a storm water infiltration strategy. Most, if not all, of the concepts contained in the white paper have been discussed during stakeholder meetings.

3. <u>Permittees Should Not Be Required To Make Up Capture Volume Off Site Or Pay A Fee If They Cannot Retain Capture Volume On Site</u>

Off-site options available for project applicants are extremely limited and, in many cases, illusory. The San Diego Creek watershed enjoys a Natural Treatment System ("NTS") that the Regional Board approved as a regional treatment BMP for purposes of the existing permit. Certainly, the new permit should preserve this designation, and encourage other regional projects, particularly those that address existing as well as new development. But, to date, the NTS is the only regional treatment BMP approved by the Regional Board, and its capacity to detain and treat stormwater already is limited. In addition, the approval process for the NTS was arduous, and may have discouraged other entities from proposing regional solutions.

Diversion to the sanitary sewer can be considered on a case-by-case basis, but requires separate permitting involving sanitation districts. Historically, sanitation districts have been reluctant to accept stormwater, and most have policies limiting how much stormwater they will take into their respective systems. Also, it is not clear that such diversions are environmentally desirable in comparison with other options, such as using on-site vegetation BMPs which keep water in local creeks and channels, but only after natural treatment.

In short, in some circumstances off-site options and fee-based programs may be available to support a mandate that would impose a mitigation obligation on a project proponent that cannot retain the entire capture volume on site. With that said, project proponents should be required to explore such options, and adopt them only when it is practicable to do so in light of the context.

Finally, it should be pointed out that such off-site programs likely would need their own entitlements and a large financing mechanism. In the case of the NTS, entitlement and permitting took years, and the funding mechanism required an act of the California Legislature. These facts should illustrate to the Regional Board that it cannot expect such programs to be available until well into this next permit cycle, at the earliest. Any attempt to mandate acceleration would be technology-forcing and not practicable. With that said, we in the private sector long have favored regional solutions and certainly intend to pursue their promise. This is an important element of our interest in watershed master planning.

4. Permittees Should Decide Whether LID BMPs Are Not Feasible and Whether and What Types of Conventional Treatment Can Be Used

We also recommend that the permittees, which are the entities armed with the most local knowledge and appreciation of circumstances, should decide whether LID BMPs are not feasible in particular contexts and where conventional treatment can be used. Using this system, the developer can then reasonably choose, based upon the context, which of the four types of LID BMPs to employ: infiltration, harvesting, ET, or vegetative/landscaping solutions including bioretention or biofiltration with underdrains, or appropriate conventional BMPs. This holistic, basket-type approach is more practical and it is more flexible than requiring permittees to install only LID BMPs that reduce runoff via retention.

5. At Least 12 Months Are Needed To Develop A WQPM Guidance Document on LID Principles

Given discussion at the stakeholder meetings, Orange County should be given at least 12 months to develop a WQMP guidance document on LID principles including BMP specification, feasibility criteria, and engineering sizing criteria. Six months is inadequate to prepare the necessary technical materials and educate the co-permittees and development community on new requirements.

6. WQMP Content Needs To Be Revised

CICWQ suggests deleting the content of Section XII(B)(3)(a) based on conceptual agreements reached with the ad-hoc technical sub-group and replacing it with a statement requiring that the WQMP include strict, clear, technical performance standards for sizing LID BMPs based on treating current volume requirements in the

current SUSMP/DAMP. (*See* below, Section C: Comments on Areas of Conceptual Agreement).

7. Capture Volume Should Be SUSMP Volume

CICWQ suggests deleting all references to limiting EIA to 5% or less in Section XII(C)(3) based on conceptual agreements reached with the ad-hoc technical sub-group. To reiterate, we suggest replacing it with a statement requiring that the WQMP include strict, clear, technical performance standards for sizing LID BMPs based on treating current volume requirements in the current SUSMP/DAMP (24-hour, 85th percentile storm event).

We are also concerned with the following statement that appears repeatedly in Section XII(C)(3)(a-d):

> "The pervious areas to which runoff from the impervious areas are connected should have the capacity to percolate at least the excess runoff from a two-year storm event."

This statement implies 100% capture and infiltration of the excess runoff from a 2-year storm event (or other storm event if substituted). As stated above in our general comments on Section XII, a requirement to capture and infiltrate and/or detain 100% of the water quality treatment volume is infeasible under many different circumstances. We suggest striking this sentence wherever referenced and alternatively include permit conditions concerning LID BMP volume capture sizing standards in the first paragraph of Section XII(C)(3). We are including as Attachment 4 a comparison table showing the requirements of a volume capture standards for LID BMPs based on preferentially treating the 24-hour, 85th percentile storm event and those in the Draft Permit.

CICWQ does not support using EIA as an off-ramp for substituting treatment control BMPs for LID BMPs per Section XII(C)(4)(b), and urges striking this reference.

8. Hydromodification Control Strategies Should Be Implemented Pursuant To Geosyntec White Papers

CICWQ has been working with an array of permittees and developers in southern California to devise appropriate hydromodification control standards for more than two years. We support the use of hydromodification control measures where appropriate and where downstream receiving water conditions warrant installation of on-site, off-site, and/or in-stream control facilities. For the Board's consideration we have attached a white paper on hydromodification control approaches prepared by Geosyntec Consultants (Attachment 5). This paper provides background on hydromodification control considerations and provides a series of recommendation regarding approaches the permittee could use to identify and map sensitive receiving water bodies and develop appropriate hydromodification control strategies. In the baseline period before watershed

or water body based standards are adopted, we recommend using control strategies as defined in Attachment 4. This table compares the approach recommended by CICWQ to that of the current Draft Permit requirements.

Finally, we recommend that permittees have the ability to prepare their own hydromodification control requirements/plan that is receiving water specific.

C. Comments on Areas of Conceptual Agreement

CICWQ was encouraged by the formation of a stakeholder group process in December 2008, on-going discussions, and the formation of an ad-hoc technical group to attempt to reach general agreement on principles for selecting and sizing LID BMPs.

Based on general areas of discussion during stakeholder meetings and during the sub-group conference call on 1/27/09 and 2/3/09, a summary of those discussions and a four point list of areas of conceptual agreement are included:

1. Performance standards for implementing LID BMPs other than a fixed effective impervious area (EIA) percentage (3-5%) are acceptable to Coastkeeper and NRDC if a technically equivalent standard can be identified.

2. Sizing LID BMPs to capture the 85th percentile storm event (current OC SUSMP/DAMP criteria for water quality volume) is an acceptable alternative to EIA as a performance standard provided that technically-based, strict, and clear feasibility criteria are developed for any project that cannot meet the LID BMP requirements.

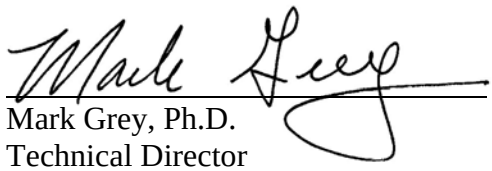
3. Prioritized LID/SUSMP BMPs for water quality volume capture are represented by: (a) infiltration, harvesting, or evapotranspiration BMPs; or (b) vegetated BMPs including bioretention and biofiltration. The water quality volume not captured by LID BMPs shall be treated consistent with SUSMP requirements. Note: There is debate regarding BMP selection options. Coastkeeper/NRDC support complete capture/accounting of the 85th% storm on site using LID BMPs from category (a) or meet off-site mitigation obligations; Permittees/CICWQ support complete treatment using category (a) and (b) BMPs.

4. If a project proponent cannot feasibly treat the SUSMP water quality volume using the prioritized application of LID/SUSMP BMPs on-site, then off-site mitigation of the remaining treatment volume must occur.

IV. Summary

CICWQ is pleased that an inclusive stakeholder process has ensued since the Draft Permit was first released in late November 2008. The process has shed significant light on areas where all stakeholders have common interests and common plans for tackling the pressing water quality improvement issues we all face. We will be an active participant in this group moving forward, and we trust that the Regional Board will continue to promote and engage in this process leading up to permit adoption. If you have any questions or want to discuss the content of our comment letter, please feel free to contact me at (909) 396-9993, ext. 252, (909) 525-0623, cell phone, or mgrey@biasc.org.

Respectfully,



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